SUPPLEMENTARY ONLINE MATERIAL

Individual differences in circadian waveform of Siberian hamsters under multiple lighting conditions

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Table S1. SP-chronotype measures (mean ± SEM) for short photoperiod responders (SP-R), nonresponders (SP-NR), and converters (SP-Converter), in comparison to controls maintained under LD 14:10.

	Control	SP-NR	SP-R	SP-Converter	p value
		Week 12- LD10:14 with DARK nights			
α		7.2 ± 0.2^{A}	12.7 ± 0.3^{B}		< 0.0001
BW (Female)	37.5 ± 2.5^{A}	37.9 ± 1.4^{A}	26.4 ± 1.1^{B}		< 0.0001
BW (Male)	43.5 ± 1.9	48.2 ± 1.5	39.7 ± 6.4		0.1
ETV	642 ± 86^{A}	708 ± 41^{A}	223 ± 92^{B}		0.0003
n	14	20	14		
		Week 18- LD10:14 with DIM nights			
α		7.8 ± 0.3^{A}	14.5 ± 0.7^{B}	11.85 ± 0.6^{C}	< 0.0001
BW (Female)	40.2 ± 3.0^{A}	33.8 ± 1.2^{AB}	24.8 ± 1.4^{B}	36.5 ± 3.2^{A}	0.0003
BW (Male)	45.4 ± 2.2^{A}	49.3 ± 1.8^{A}	33.4 ± 2.6^{B}	48.6^{AB}	0.002
ETV	623 ± 39^{A}	491 ± 45^{A}	112 ± 0^{B}	112^{B}	< 0.0001
n	14	14	14	6	

BW = Body Weight
ETV = Estimated Testes Volume
Different letters indicate groups in the same row that differ from one another

Table S2. Alpha (h) in constant conditions after LDLD and subsequent light-induced phase advances by SP chronotype and bifurcation state

	Alpha		Phase Advance Size	
	Bifurcated	Not bifurcated	Bifurcated	Not bifurcated
Control	13.2 ± 1.0	11.4 ± 0.9	1.9 ± 0.5	0.9 ± 0.1
SP-NR	15.1 ± 1.2	9.0 ± 0.7	1.6 ± 0.7	1.0 ± 0.3
SP-R	14.0 ± 0.7		1.8 ± 0.5	
Converter	11.9 ± 1.8		1.5 ± 0.3	

Table S3. Free-running period under constant DIM light and DARK

	Period under DIM		Period under DARK	
	Bifurcated	Not bifurcated	Bifurcated	Not bifurcated
Control	23.95 ± 0.02	24.19 ± 0.13	23.99 ± 0.10	24.00 ± 0.11
SP-NR	23.97 ± 0.14	24.12 ± 0.10	23.96 ± 0.09	24.03 ± 0.08
SP-R Converter	23.98 ± 0.08		23.87 ± 0.12	

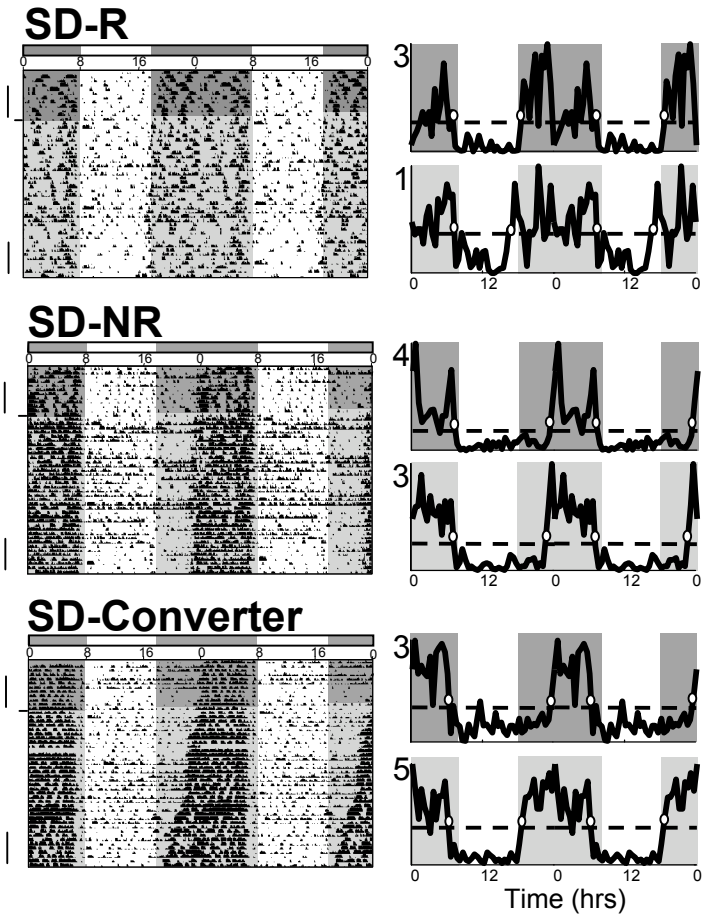

Figure S1. Double-plotted actograms (left) and corresponding 24 h activity profile (right) for a representative short photoperiod responder (SP-R), short photoperiod non-responder (SP-NR), and short photoperiod converter (SP-Converter), with actograms starting after 11.5 weeks of LD10:14 with completely dark nights.. Left: Light:dark bars and internal shading indicate short photoperiod lighting conditions (LD10:14). Dim nighttime illumination was provided after 12 weeks under short photoperiods, as represented by the change in the internal shading and the tick to the left of each actogram. Vertical lines to the left of each actogram indicate the 7 day interval used to produce each activity profile. Right: Activity profiles were computed for each animal for the last week under short photoperiods with dark nights (top) and dimly lit nights (bottom). X- and Y-axis represent time of day and mean activity counts/min, respectively (numbers indicate Y-axis max). Dashed line within each plot represents daily mean activity counts. Open circles indicate the times of activity onset and offset as determined for each animal. See methods for detailed description of short photoperiod chronotypy.

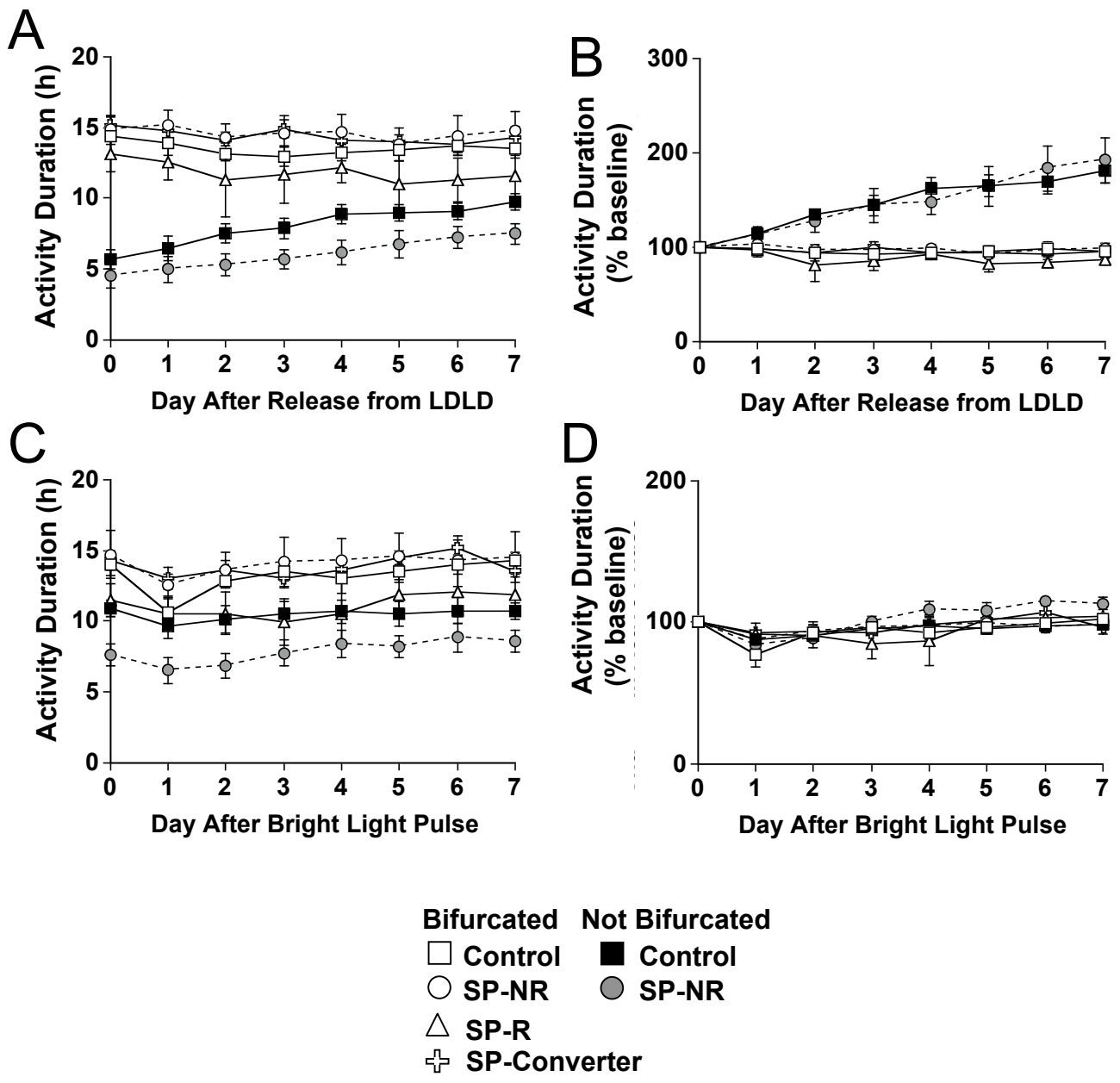

Figure S2. A-B) Mean ± SEM activity duration in hours (left) and as a percent of baseline (right) following transfer from LDLD into constant DIM by short photoperiod chronotype and bifurcation status. C-D) Mean ± SEM activity duration in hours (left) and as a percent of baseline (right) following exposure to a 15 min light pulse late in subjective night by short photoperiod chronotype and bifurcation status.